

KEDER, L.; DODWELL, J.

Effect of denervation and immobilization on carbohydrate metabolism in tonic and tetanic muscles. Part 1 and 2.
Acta physiol. Acad. sci. Hung. 28 pp. 227-244 ' 65.

1. Department of Neurology and Brain Research, University Medical School, Budapest. Submitted January 8, 1965.

HEINER, L.; STIPULA, Magda; DOMONKOS, J.

Connection between carbohydrate metabolism and atrophy in
tonic and tetanic muscles. Acta physiol. acad. sci. Hung.
26 no.3&4- 252 ' 65.

1. Department of Neurology and Brain Research Institute,
University Medical School, Szeged, and Department of Neuro-
logy, University Medical School, Budapest.

LATZKOVITS, L.; DONTOKOS, J.

The effect of postnatal development on the carbohydrate metabolism of tonic and tetanic muscles. Acta physiol. Acad. sci. Hung. 28 no. 3:253-277 ' 65.

1. Department of Neurology and Brain Research Institute
University Medical School, Budapest.

Submitted January 8, 1965/

L 31080-66

ACC NR: AT6022818

SOURCE CODE: HU/2505/65/022/003/0227/0236

AUTHOR: Domonkos, Jeno--Domonkosh, Yo.; Hoinor, Lajos--Kheyner, L.

25

B+1

ORG: Neurological Clinic, Medical University, Szeged (Orvostudomanyi Egyetem
Idegklinika); Brain Research Institute, Medical University, Szeged (Orvostudomanyi
Egyetem Agukturato Intezet)TITLE: Effect of denervation and immobilization on carbohydrate metabolism in tonic
and tetanic muscles I. Glycolytic metabolism

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 28, no. 3, 1965, 227-236

TOPIC TERM: carbohydrate, muscle physiology, biologic metabolism

ABSTRACT: Denervation does not influence to the same extent the glycogen content and glycolytic metabolism of tonic and tetanic muscles. During the first week following denervation, the glycogen content decreases in the tonic muscle and increases in the tetanic one. In the second week after denervation, the situation is reversed. The glycolytic metabolic activity and the changes in glycogen content show a parallel behavior in both kinds of muscle. In the second phase after denervation, the glycolytic metabolism of the two kinds of muscle begins to show similarities. With a few days' lag, the effect of immobilization resembles that of denervation. Orig. art. has: 8 tables. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUBM DATE: 08Jan65 / ORIG REF: 003 / SOV REF: 001
OTH REF: 025

Card 1/1 C.R.

L 31081-66

ACC NR: AT6022819

SOURCE CODE: HU/2505/65/028/003/0237/0244

AUTHOR: Heinor, Lajos-Kheyner, L.; Domonkos, Jeno-Domonkosh, Ye.

24
B+/-

ORG: Department of Neurology and Brain Research Institute, Medical University of Szeged (Szegedi Orvostudomanyi Egyetem, Idegklinika es Agykutato Intezet)

TITLE: Effect of denervation and immobilization on the carbohydrate metabolism in tonic and tetanic muscles II. Oxidative metabolism

22

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 28, no. 3, 1965, 237-244

TOPIC TAGS: muscle physiology, carbohydrate, biologic metabolism

ABSTRACT: In the second postoperative week following denervation, there is a significant difference in the oxygen uptake by tetanic and tonic muscles; oxygen uptake decreases in the tonic and slightly increases in the tetanic muscle. If inactivity is enforced by immobilization, however, there are no changes in oxygen uptake by either kinds of muscle as much as two weeks after fixation. The high energy phosphate content of tonic and tetanic muscles shows no changes in opposite directions. As a result of inactivation, a slight increase in high energy phosphate content can be noted in both kinds of muscle. This increase is more marked in the tonic muscle.
Orig. art. has: 4 tables. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUEM DATE: 08Jan65 / ORIG REF: 003 / SOV REF: 003
OTH REF: 026

L 31082-66

ACC NR: AT6022820

SOURCE CODE: HU/2505/65/028/003/0245/0252

AUTHOR: Heiner, Lajos--Kheyner, L.; Stipula, Magda--Shtipula, M.; Domonkos, János--
Domonkos, Y.

ORG: Heiner, Domonkos/ Neurological Clinic, Medical University, Szeged (Orvostudományi Egyetem Idegklinikája); Heiner, Domonkos/ Brain Research Institute, Medical University, Szeged (Orvostudományi Egyetem Ágykutató Intézete); Stipula/ Neurological Clinic, Medical University, Budapest (Orvostudományi Egyetem Idegklinikája)

TITLE: Correlation between carbohydrate metabolism and atrophy in tonic and tetanic muscles

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 28, no. 3, 1965.
245-252

TOPIC TAGS: biologic metabolism, muscle physiology, carbohydrate

ABSTRACT: The relationship between atrophy, metabolism, and other changes brought about by denervation have been examined in tonic and tetanic muscles. Atrophy was found to appear earlier in the tonic muscle than in the tetanic one. During the 2-3 weeks' observation period, the atrophic process did not in all respects follow the changes which occurred in metabolism. Changes in the glycolytic metabolism appear earlier after denervation than does a histologically demonstrable atrophy. Changes in oxidative metabolism appear after the process

Card 1/2

L 31082-66

ACC NR: AT6022820

of atrophy has become histologically demonstrable. The changes in glycolysis and oxygen uptake, following denervation, are inverse in the two kinds of muscle. These changes can not, therefore, be directly related to atrophy. On the other hand, a closer correlation may exist between the high energy phosphate content, the muscle cell phase, and atrophy. Orig. art. has: 13 figures and 1 table. [Orig. art. in Eng.] [JPRS] O

SUB CODE: 06 / SUIM DATE: 08Jan65 / ORIG REF: 002 / OTH REF: 007

Card 2/2 CC

L 31083-66

ACC NR: AT6022821

SOURCE CODE: HU/2505/65/028/003/0253/0257

AUTHOR: Latzkovits, Laszlo--Latskovich, L.; Domonkos, Jeno--Domonkosh, Y.

25

B+1

ORG: Neurological Clinic, Medical University, Szeged (Orvostudomanyi Egyetem Ideg-klinika); Brain Research Institute, Medical University, Szeged (Orvostudomanyi Egyetem Agykutato Intezet)TITLE: Effect of postnatal development on the carbohydrate metabolism of tonic
and tetanic muscles

22

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 28, no. 3, 1965, 253-257

TOPIC TAGS: carbohydrate, biologic metabolism, muscle physiology

ABSTRACT: Lactate and pyruvate production under aerobic conditions is the most characteristic metabolic process of the so-called tetanic muscles of the skeletal musculature. No such process can be observed in tonic muscles. On examining the metabolism of the skeletal musculature on the basis of its lactate and pyruvate production during postnatal development, it has been established that, immediately after birth, the metabolism of the skeletal muscles corresponds entirely to that of the tonic muscles. The characteristic metabolism of the tetanic muscle is the result of postnatal differentiation. This differentiation of metabolism occurs parallel with the differentiation of muscle function. Previous to the development of independent motion and locomotor function, tetanic and tonic muscles can not be dealt with separately. Orig. art. has: 2 tables. Orig. art. in Eng. JPRS

SUB CODE: 06 / SUBM DATE: 08Jan65 / ORIG. REV. 004 / Sov. Rev. Vol. 1 / OTH REF: 011

ACC NR: AP6030837

SOURCE CODE: RU/0023/66/011/001/0041/0046

AUTHOR: Sabau, Monica—Sabau, M. (Doctor); Domokos, L.—Domokosh, L. (Doctor);
Abraham, A.—Abragam, A. (Doctor); Nagy, L.—Nad', L. (Doctor)

ORG: IMF, Tîrgu Mureș25
B

TITLE: Etiological role of atypical Esch. coli (of hemolytic type) in pediatric enterocolitis. [This paper was presented at a meeting at Section of Infectious Pathology, U.S.S.R., Mures-Autonoma Branch, Hungary, on 8 October 1964.]

SOURCE: Microbiologia, parazitologia si epidemiologia, v. 11, no. 1, 1966, 41-46

TOPIC TAGS: pediatrics, gastroenterology, blood chemistry, bacteria

ABSTRACT: In a study of enterocolitis in children, hemolyzing strains of Esch. coli were isolated in 31.0 percent of 960 cases. A relatively larger amount of hemolysis was produced in young cultures. The authors suggest that the hemolysin isolated from supernatant cultures in alkaline broth is of type A and probably a protein. The hemolysin was found to be thermolabile. Orig. art. has: 3 tables. [Based on authors' Eng. abst.] [JPRS: 35,814]

SUB CODE: 06 / SUBM DATE: 26Oct64 / ORIG REF: 007 / SOV REF: 002
OTH REF: OLO

Card 1/1 hs

UDC: 616.348-002:576.851.48

n/a d-77

DOMOKOSH, G.

Calculation of Regge poles. Dokl. AN SSSR 145 no.1:76-77 JI
'62. (MIRA 15:7)

1. Otdeleniyy institut yadernykh issledovaniy. Predstavleno
akademikom N.N.Bogolyubovym.
(Diffraction) (Quantum theory)

DOMOKOSH, G.

Analytic properties of the amplitude of elastic π/π -scattering in
a 1-plane. Dokl. AN SSSR. 144 no.6: 1279-1280 Je '62. (MIRA 15:6)

1, Ob"yedinennyj institut yadernykh issledovaniy. Predstavljano akad.
N.N.Bogolyubovym.

(Mesons—Scattering)

DOMOKOSII, G. [Domokos, G.]

On the asymptotic behavior of the vertex part in the pseudoscalar meson theory. Acta phys Hung 14 no.4:341-344 '62.

1. Ob'yedinnnyy institut yadernykh issledovaniy, Laboratoriya teoricheskoy fiziki, Dubna, SSSR. Komandirovan iz TSentralnogo nauchno-issledovatelskogo instituta fiziki Vengerskoy Akademii Nauk Predstavлено L. Yanoshi [Lajos Janossy].

DOMONKOS, Erica

Mathematics methods in the realization of intermediate language for
automatic translation. Probleme automatiz 4:63-68 '63.

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2

MASSZI, Jozsef, dr.; DOMONKOS, Robert, dr.

Epithelial changes following periorbital dermatitis in old age.
Borgyogy. vener. szemle 38 no.3:123-124 J1 '62.

1. A Budapesti Orvostudomanyi Egyetem Bor- es Nemikortani Klinikajának
(Igasgató: Foldvari Ferenc dr. egyetemi tanár) kozlemenye.
(DERMATITIS in aged) (ORBIT dis)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2"

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2

LENGIEL, Julia, dr.; KALDOR, Istvan, dr.; DOMONKOS, Robert, dr.

Simultaneous occurrences of actinomycosis and blastomycosis.
Orv. hetil. 104 no.44:2091-2092 3 N '63.

1. Budapesti Orvostudomanyi Egyetem, Bor- es Nemikortani Klinika.
(ACTINOMYCOSIS) (BLASTOMYCOSIS)
(APPENDECTOMY) (PATHOLOGY) (PENICILLIN)
(STREPTOMYCIN) (ACTINOMYCIN)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2"

DOMONKOS, Robert, dr.

Rare localization of deep trichophytosis. Borgyogy, Vener.
szemle 40 no. 2:86-88 Ap'64

1. Budapesti Orvostudomanyi Egyetem Bőr- és Nemikortani Kli-
nikájának (Igazgató: dr. Foldvari, Ferenc, egyetemi tanár)
közleménye.

*


DOMONKOS, Robert, dr.; BOTTYAN, Etelka, dr.

Drug side-effects in 2 cases of subacute lupus erythematosus.
Borgyogy vener. szemle. 40 no.4:180-182 Ag '64.

1. A Budapesti Orvostudomanyi Egyetem Bor- es Nemikortani Klinika
(Igazgato: Foldvari Ferenc dr. egyetemi tanar) kozlemenye.

DOMONKOS, Sandor

Recurrent voltage originating during the break of testing circuits
by means of a contactor. Elektrotechnika 54 no.12:575-576 D '61.

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2

UJHASI, Geza; DOMONKOS, Sandor

Review of periodicals. Elektrotehnika 54 no. 12:574-576 D'61.

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2"

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2

DOMONKOS, Sandor

"Thermo-bimetals in electrical engineering" by Dr. Frantisek
Kaspar. Reviewed by Sandor Domonkos. Elektrotechnika 54
no.6:287 Je '61.

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2"

DOMONKOS, S. (Budapest XI., Egry Jozsef u.18)

The effect of magnetic blowout on the arc extinction time in
alternating-current protective switches. Periodica polytechn
electr 6 no.2:125-148 '62.

1. Lehrstuhl fur Hochspannungstechnik und Geräte, Technische
Universität, Budapest Vorgelegt von Prof. DR.J.Eisler.

DOMONKOS, Sandor, adjunktus

Quenching low-voltage arcs. Elektrotehnika 53 no.11:503-
513 '60.

I. Budapesti Műszaki Egyetem Nagyfeszültségű Technika és
Készülékek Gyára.

DOMONKOS, Sandor (Budapest, XI., Egry József u.18)

Forces occurring between tr. deion quenching plates and the
light arc. Periodica polytechn electr 8 no.1:79-92 '64.

1. Lehrstuhl fur Hochspannungstechnik und Elektrische
Apparate, Universitat Budapest. Verfaelt von Prof.
Dr. J. Eisler.

ANTAL, Ferenc (Biborteni 175. Ra1:Sft. Gheorghe. Reg. Aut. Magh.-Rumania);
SZEMLER, Ferenc; DOMONKOS, Zoltan (Szigetszentmiklos, József A.
telep); LIPPERT, József (Budapest V., Balaton u.27); HORVATHY,
Lajos (Budapest XX., Marx Károly u.180)

Motorists' letters. Auto motor 14 no.4:5 F '61.

DOMOKOS, Zoltan, mr.

Packaging of pharmaceutical products slated for export.
Farmaceut gl Zagreb 20 no.9:335-337 S '64.

1. "Galenika" Enterprise, Belgrade.

DOMONSKIV, E.I.

Category : USSR/Optics - Physical optics

K-5

Abs Jour : Ref Zhur - Fizika, № 1, 1957, № 2304

Author : Domonskiy, E.I., Neakov, M.M.

Inst : Ural' State University, USSR

Title : Determination of the Optical Constants of Metals, Using the Autocollimation Method

Orig Pub : Fiz. metallov i metallovedeniye, 1955, 1, No 3, 567

Abstract : The autocollimation method (O'Bryan H.M., J. Opt. Soc. America, 1936, 26, 122) is used in the infrared region. Light is reflected from the specimen twice in the forward path and in the return path, and passes twice through the same Se polarizer, which is slowly rotated by an electric motor. A recording infrared spectrometer automatically records the intensity, the maximum deviation of which is used to find the principal azimuth φ_0 and the principal angle of incidence ϕ_0 with a probable error of $\pm 35'$ for φ_0 and $\pm 15'$ for ϕ_0 in each individual measurement. The optical constants of mirrors obtained by evaporation of Sb, Cu, Ag, Al, and Zn in vacuum were measured for $\lambda 2.45\text{ }\mu$.

Card : 1/1

DOMONTOVICH, Ye. N. Doc Med Sci -- (diss) "Data ^{for} Concerning the Problem of the Adaptation of the Organism to the Hypoxic Form of Oxygen Deficiency." Mos, 1957. 21 pp 20 cm. (Academy of Medical Sciences USSR), 200 copies (KL, 18-57, 97)

DOMONTOVICH, Ye., doktor med.nauk; PANKOVA, L.N., kand. biol. nauk

Characteristics of physiological functions of daily periodicity
in patients recovered from meningitis. Vrach delo, no.7:79-83
Jl'63.
(MIRA 16:10)

1. Fiziologicheskoye otdeleniye (zav. - doctor med. nauk Ye.N.
Domontovich) TSentral'nogo nauchno-issledovatel'skogo institu-
ta ekspertizy trudospособности i organizatsii truda invalidov.
(PHYSIOLOGY, PATHOLOGICAL) (MENINGITIS)

Corrosion of Aluminum and Its Prevention. Andrus Humphrey (Bengal Kaliakher, *Lepat*, 1937, 70, 319-324; C. Ab., 1938, 22, 2073). The electrolytic theory of the corrosion of aluminum is described. A 20-cm.² aluminum surface developed in sea-water within 6 months about 23 c.c. gaseous hydrogen. This gas exerted a pressure in the metal sufficient to cause protuberances on the surface. Impurities (aluminum ferrite crystals formed during slow cooling, rolled-in copper particles, etc.) promote corrosion. Local rubbing, improper storage, &c., can develop local heat sufficient to cause oxidation, converting the metal to a graphite-like powder and producing black spots that sometimes extend some thousandths of a mm. into the metal. The use of iron or copper rivets in aluminum plates causes corrosion. Metal rolled at 500° C. is much more resistant than that worked at 300° C. In alloys designed for corrosion-resistance (manganese-magnesium-aluminum, manganese-aluminum, magnesium-aluminum) intercrystalline corrosion due to improper heat-treatment may occur. Baked lacquers from phthalic acid, phenol-formaldehyde, or chlororubber resins may prevent corrosion, but the heat in baking adversely affects the mechanical properties of the metal. Aluminum electrolytated with nickel, cadmium, or zinc corrodes very quickly if the slightest hole is formed in the plating. Surface oxidation by means of chemical agents or by electrolysis seems at present to be the best method of corrosion prevention.—S. G.

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2"

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

Aluminum 99.99% pure. Andras Jonnay. Bany-diss., Kohdiss. Lapak 71, 281-4 (1931).—The characteristics of pure Al made in the Ciepel factory are described, with photomicrographs of its structure. In regard to alloys of pure Al, Fe improves its mech. qualities but decreases its chem. resistance. Addn. of 0.1% Fe, e. g., increases the HCl solv. 500-fold. The breaking strength of 99.99% Al is 12.0; that of Al contg. 0.10% Fe, 14.5; and that of Al contg. 0.01% Fe, 17.5. Alloying with Cu similarly decreases chem. resistance and increases strength (0.10%, 14.4; 0.50, 17.0). Addn. of Si treated at 300°

greatly decreases the chem. resistance, but Si treated at 500° increases strength (0.20% Si, 13.5; 0.005% Si, 18.6). Mg increases the strength, 0.10% Mg, 14.0; 0.47% Mg, 17.4. Al of 99.99% purity seems to be practically suitable for covering surfaces and profiles and is resistant against atm. influences. Thin Al foils of pure metal are used for covers for foods.

S. S. de Paula

9

ASB-1A METALLURGICAL LITERATURE CLASSIFICATION

EIGHT DIVISIONS

Blister Formation in Semi-Polished Parts of Aluminium or Aluminium Alloys. André Dumazy (Mécanique et Métaux) L'Institut, 1941, 74, 455 (in); Chem. Zentr., 1942, 128, (1), 463; C. Abc., 1943, 37, 6230). — It is shown by experiment that the cause of surface blisters, apart from such well known factors as insufficient desulfidation or faulty casting and fabricating procedures, can be aggregation in the casting. To obtain a sound structure, the castings should be cooled quickly and uniformly.

ASA-LSA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

M

The [Aluminum] Alloy PKO II and Its Manufacture. Andris Dzemya (Vygri Ipar ja Kereakdzes, 1941, 2, (2), 3-4; Chem. Zentr., 1943, 114, (1), 1928; C. Abs., 1944, 28, 4531).—The alloy PKO II is easily workable, has a silvery lustre, and looks, when polished, like a metal with chromed surface. The strength of sand castings is 15-18 kg./sq. mm. and elongation 1.5-2.5%; when cast in metal moulds the corresponding figures are 18-20 kg./sq. mm. and 1.5-3%. Mylius No. -- 7-8, density - 2.73, shrinkage - 3%. During melting, casting, and working it behaves like other aluminum alloys. The correct melting and casting temperatures are 730-750° C. and 710-720° C., respectively.

Z

ATA SCA METALLURGICAL LITERATURE CLASSIFICATION

CA

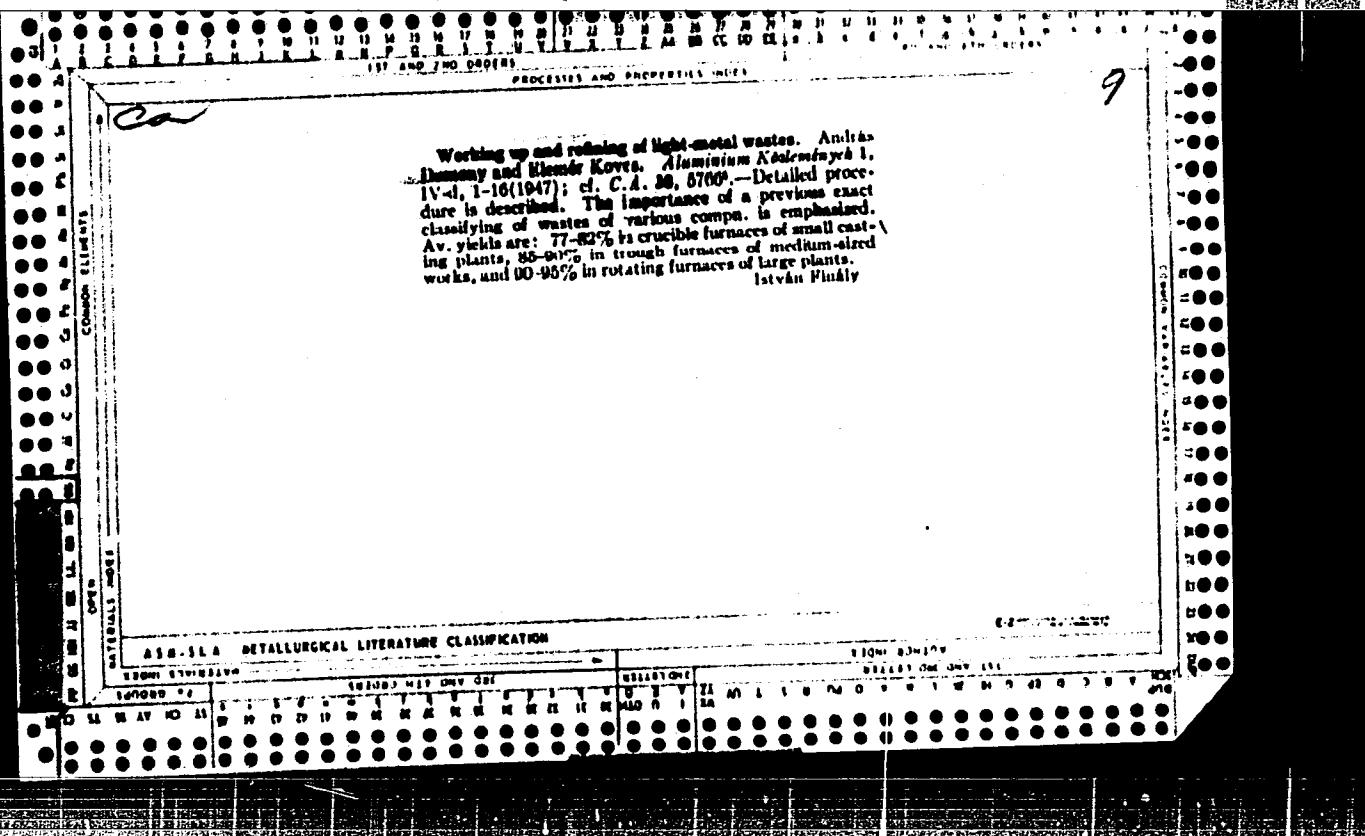
9

Recuperation and refining of Al wastes and cuttings
Andras Ipolyity, Torkocs (Budapest) 23, 420-31
(1963); Chem. Zentral, 1963, II, 1780. The Al wastes
must be sorted into groups according to their compn. in
alloys: pure Al, Al-Cu to 10% Cu, Al-Cu-Mg, Al-Si-Mg
(Cu-free), Al-Mg (Cu-free with high Mg content), Al-Si
(high Si content) Al-Ni-Mg and alloys of unknown compn.
Two tech. processes were worked out—the fractional
cryst. and the refining by means of a 3-layer electrolysis.
However, none of the processes gives a satisfactory solu-
tion to the problem. S. Pakwari

ASIN: A65256 METALLURGICAL LITERATURE CLASSIFICATION

Corrosion of light metals and its prevention. Aulias-Demazy, *Médiées. Kohäs. Lorför. 76*, 221-30 (1947). *Chem. Zentr.* 1942, II, 1445f. - Various types of corrosion (chem., electrochem. and intercrys.) occurring in light-metal alloys and the effect of alloying elements, inclusions and heat-treatment are discussed. Protective methods are described in detail and operating suggestions are given for anode oxidation, chem. oxidation, plating, galvanizing and lacquering. H. W. Rathmann

ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION									
SEARCHED INDEXED SERIALIZED FILED									
SEARCHED	INDEXED	SERIALIZED	FILED	SEARCHED	INDEXED	SERIALIZED	FILED	SEARCHED	INDEXED
167009-2				092237-201				0307-0308	
Y	U	W	X	Z	A	B	C	D	E
M	N	O	P	Q	R	S	T	U	V
W	X	Y	Z	A	B	C	D	E	F
H	I	J	K	L	M	N	O	P	Q
G	H	I	J	K	L	M	N	O	P
F	G	H	I	J	K	L	M	N	O
E	F	G	H	I	J	K	L	M	N
D	E	F	G	H	I	J	K	L	M
C	D	E	F	G	H	I	J	K	L
B	C	D	E	F	G	H	I	J	K
A	B	C	D	E	F	G	H	I	J



Distribution and Capacity of the World's Aluminum Processing Plants.
Annual Survey (Aluminium (Budapest), 1949, 1, (4), 37-92).--Shows by a
number of tables and maps the distribution, capacity, and the expansion
of aluminum production in various countries of the world. -- p. 3.

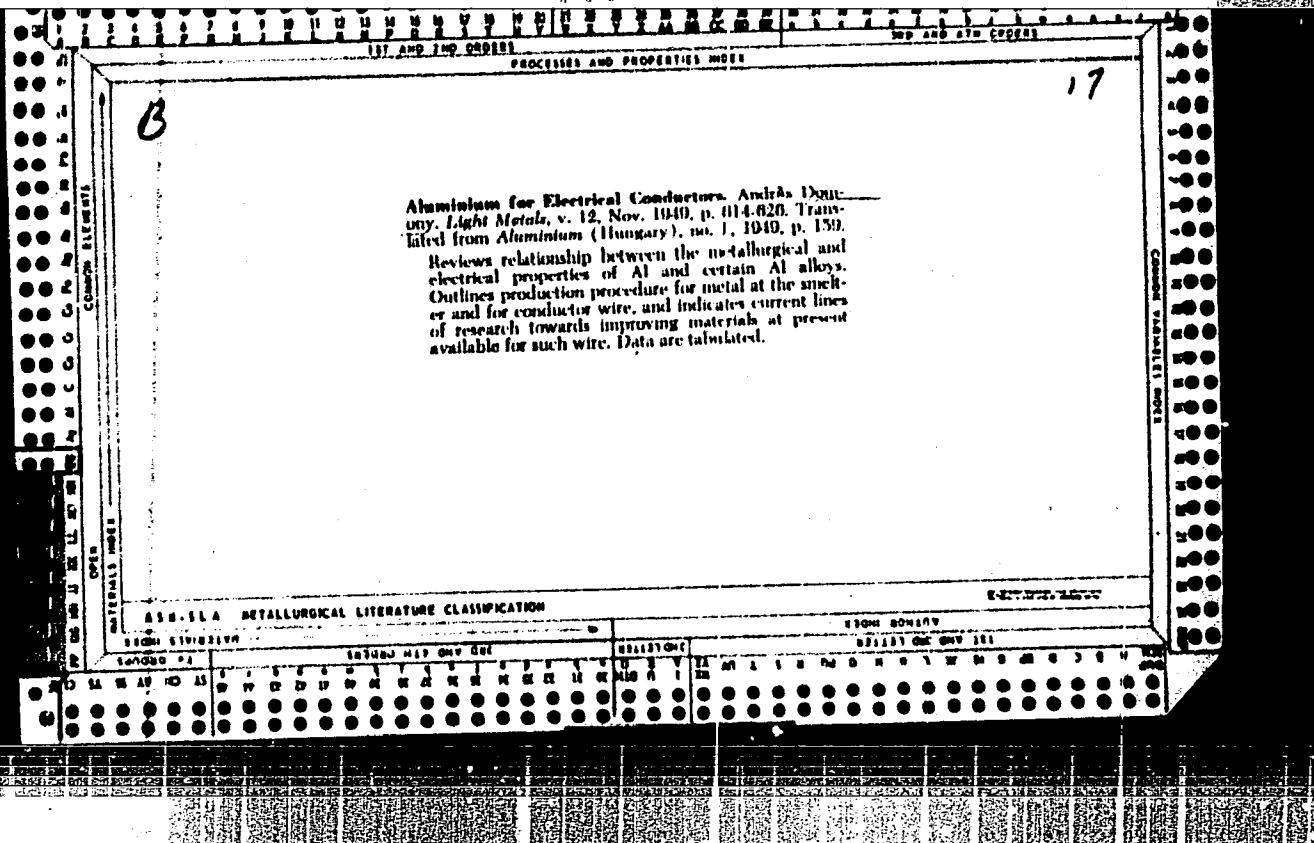
97. The behavior of metallic impurities on surface drawing and the conductivity of light metals, by D. B. Bennett (Aluminum)— Vol. 1, No. 1, pp. 111-117, and Vol. 7, pp. 150, 160, 166. June-July, 1919.

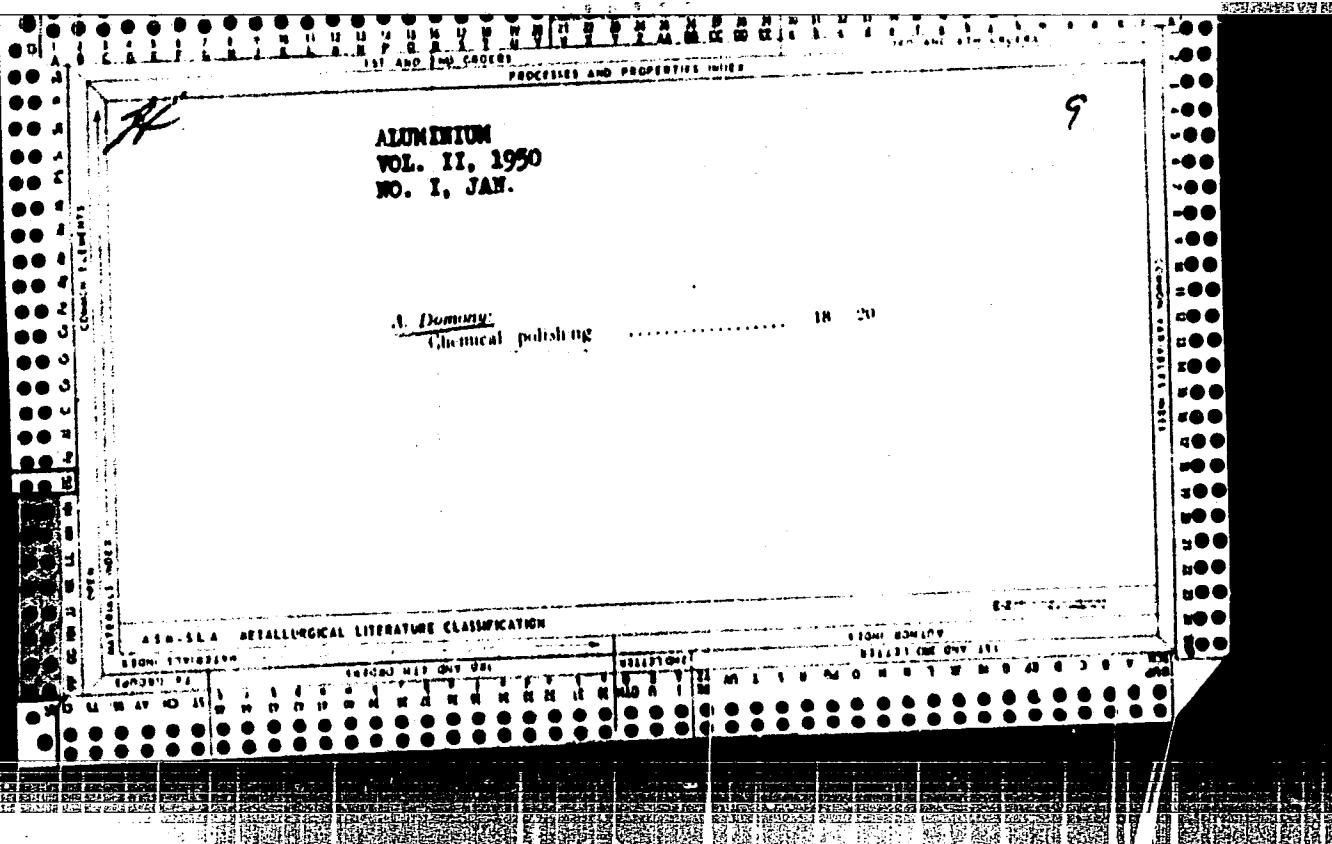
The author summarizes the various publications on the action of impurities on the properties of metals, particularly on the conductivity of such alloys as aluminum, tin, silver, gold, copper, and iron. He also discusses the possible impurities that may be found in steel and in cathode carbon. Other metallic impurities, he states, do not exceed 0.01 per cent.

The second part of the article deals with the use of industry standard in producing an aluminum capable of satisfying the requirements in strength, elongation, resistance, and conductivity. The alloy used is the Al-Mg-Si type, the existence of which is due to Mg₂Si crystals formed by an appropriate heat treatment, which converts themselves into crystalline aluminum conductors by not more than one per cent, which increases its strength by twice as much. In practice, the respective values of these two factors are dependent upon the presence of the following. The Al-Mg-Si alloy is characterized by a strong action in the direction of the

12

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000410920003-2"





*M**21*

Use of Aluminium in Food Preservation and Their Present and Future Problems. Andras Domony (Aluminium (Budapest), 1930), 2, (4), 80 (100).—
(In Hungarian). Aluminium being readily available and in plentiful supply in Hungary, whereas tin is not always obtainable, great efforts are being made to substitute the former for tinplate and tinfoil in the canning and food-packing industries. In comparing the two materials, the merits and demerits of 99.5% aluminium and alloys containing 1.5% manganese and 1.5% magnesium are listed and briefly discussed. Particular attention is paid to problems connected with the pickling, annealing, lacquering, and the airtight closing. D. is in favour of using chemical methods to obtain a suitable oxide coating and mentions the efforts being made in Hungary to apply the method of supersonic soldering to the last-mentioned problem. Factors influencing the corrosion of aluminium containers depend either on the container itself, e.g. cracks in the lacquer, faults in the oxide layer, impurities in the material, &c., or on the nature of the foodstuffs, e.g. their moisture content, pH (acidity), and the presence or absence of inhibitors such as sugar and fats. [10] references.—E. R.

2000 1250

ca

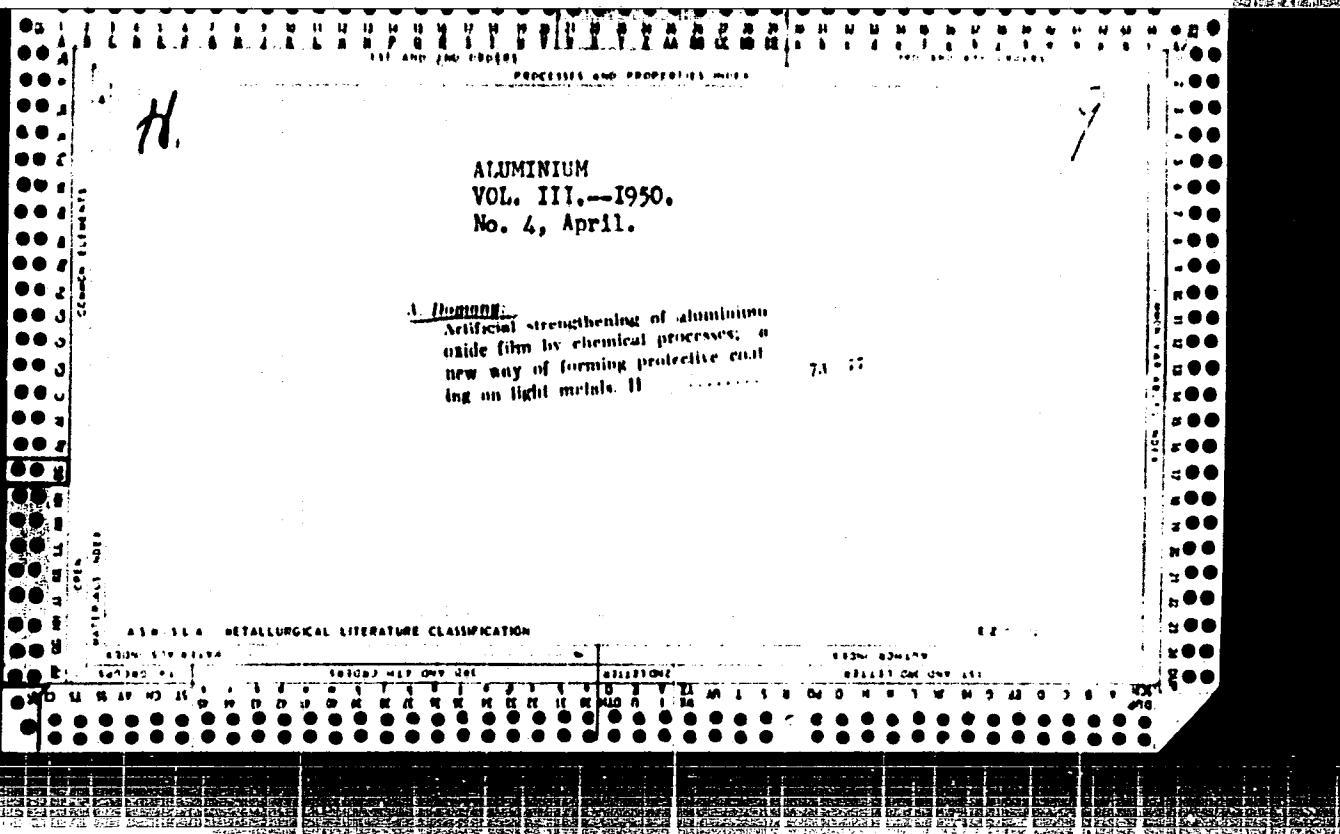
Corrosion resistance of aluminum in ethyl alcohol
András-Homann and Ilona Wakhnauer (Magyar Alumínium Zrt.,
Budapest, Hung.) Aluminum 2
175 (1950).—Samples of an anticorrosive Al(C) contg. Cu
0.08, Mn 0.74, Fe 0.29, Mg 0.54, and Si 1.08, of a soft one of
refined Al (B) contg. Cu 0.04, Fe 0.18, and Si 0.16, and of a
hard refined (99.3%) Al (C) contg. Cu 0.05, Fe 0.39, and Si
0.31% were kept 98 days in 90% EtOH at 20°, and the
liquid was stirred 35 days at 135 r.p.m. The av. wt. loss of
g./sq. m./day. The tearing strength remained unchanged.
When the EtOH concn. was 75, 40, 5, and 2%, the av. wt.
loss of (B) was 0.019, 0.011, 0.021, and 0.033 g./sq. m./day,
resp. With 100, 75, 40, 20, and 5% H₂O/H₂ the av. wt.
loss of (B) was 0.008, 0.015, 0.018, 0.011, and 0.031 g./sq. m.
day, resp. For Al sheets as industrial construction material
at high-purity grades (above 99.5%) should be used, and the
natural oxide film should be reinforced by treatment with
water glass, steam, varnish, plastic spray, etc. Micro-
photos of Al plates with various protective coatings are
given. János Fimay

H
ALUMINUM
VOL.3--1950/
No.3, March

9

Aluminum
Artificial strengthening of aluminum
oxide film by chemical processes: A
new way of forming protective coat-
ings on light metals. I. 62-63

AMSLA METALLURGICAL LITERATURE CLASSIFICATION



CA

A few extraordinary cases of brass corrosion in an atmosphere containing sulfurous gases and investigation of such cases. Andris Luminy. "Bārīja. Akadēz. Izpētīj. (Rī), 421-5(1950). When brass samples contg. 70, 63, or 58% Cu were kept 2 hrs. in an atm. contd. with SO_2 , and steam and then stored for a week, the highest wt. losses were observed in brasses with the highest Cu contents. When similar brass samples were treated in an atm. contg. 80%, 1 or 11.5% at 45°, or in an atm. contg. 80; 1% at 60°, the film formed on the surface of the brass contained Cu 70 and Zn 30, Cu 68 and Zn 32, Cu 10 and Zn 90, resp., for brass contg. Cu 70 and Zn 30; the film contained Cu 36 and Zn 64, Cu 36 and Zn 64, or Cu 2 and Zn 98, resp., for brass contg. Cu 63 and Zn 37; the film contained Cu 13 and Zn 83, Cu 30 and Zn 70, or Cu 0.0 and Zn 100, resp., for brass contg. Cu 68 and Zn 32%. When similar brass samples were kept at 20° in artificial sea water 2 weeks, the most severe corrosion occurred on the surface of brass contg. 58% Cu. The expts. show that the Cu content of brass alone is not the most important factor in corrosive resistance. Corrosion seems to depend on the quality of the protective coating formed under corrosive conditions. - Brass is generally more resistant owing to its homogeneous structure. Since, however, strongly adhesive ZnO films are not readily formed on the surface of α -brasses, they are sometimes corroded more easily than brasses of the α -plus- β -structure. Two opposing processes take place in brass corrosion.

István Finály

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2

Chemical Abstr.
Vol. 48
Apr. 10, 1954
Metallurgy and Metallography

Danossy, Address: Alumínium, Budapest, Népszava,
1954. 10. 10.

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000410920003-2"

ca

Polishing and finishing by chemical methods. Andras Schenky (Magyar Aluminiumkutatasi Intezet, Budapest, Hung.). *J. Aluminum* 3, 18-20 (1951). When articles of light metals or of Al are immersed in a liquid, cathodic processes take place on the prominent minature peaks of the metal surface, whereas in the minature valleys of the uneven surface anodic processes occur. Thus local differences arise in the current, and various pH values occur in different points in the liquid. When a liquid is adjusted to the proper pH value, then the prominent particles will be dissolved by this liquid, and at the same time a strongly adherent protective coating will be formed in the fine cavities of the surface. After a definite time the whole surface will be evenly polished. For this purpose liquids contg. H_3PO_4 were most suitable. With baths at 80-100° a treatment of 3-10 min. is satisfactory. The articles are then washed in cold and hot water, dried carefully, and finished in a 2nd bath at 85-90° for 2-3 min. The best results were obtained when a mixt. of H_3PO_4 and H_2SO_4 with some heavy metal salts as catalyst was used as the 1st bath and a water-free mixt. of H_3PO_4 and HNO_3 , with the same catalyst was used as the 2nd bath. The keeping quality of polished and finished surfaces prep'l. by this chem. method was extremely good owing to a fine, compact film of Al phosphate which prevents further oxidation. Chemically polished Al surfaces can be "elutriated" well. Istvan Finlay

Met. Abstract

7

The Artificial Thickening of the Oxide Film on Aluminium
by Chemical Means: New Method of Producing Protective
Coatings on Light Metals. Andras Domony (Aluminium
(Budapest), 1951, 8, (4), 73-77).—[In Hungarian]. Theoretical
and experimental data are given. The results of corrosion
(which is briefly described) suffered the least weight loss in
a number of highly corrosive substances. 9 ref.—J. S. M.

*George H.
AA*

A New Process for the Refining of Aluminium Scrap.
András Domány and R. Várhelyi (Aluminium (Budapest),
1961, 8, (8), 183-192).—[In: Hungarian]. After a brief
review of types of scrap and methods of refining them, and
an appraisal of the method of treating the melt with Li,
the new H_2Cl_4 process is described. Thermodynamic aspects
and the practice of the process are shown, and special ref.
is made to the effect of H_2Cl_4 on the Mg content.—J. S. M.

DOMONY, A.

34. New possibilities for utilizing castings made from aluminium waste — Hullad-ekaluminiumbol gyartott ontvenyek ujabb felhasznalasi lehetosegei — by A. Domony (Hungarian Engineering — Magyar Technika — No. 4, pp. 26-29, April 1951, 3 figs., 1 tab.).

Contrary to other metals, aluminium waste occurring in the manufacturing processes cannot be utilized simply by remelting; therefore, up to now only third rate castings could be produced from this waste (fittings, door latches, stove legs, etc.); the actual ratio of the finished product to waste is 5:1. It is possible, however, to purify the waste metal according to the processes described in detail in the article to a degree that even high grade goods, such as engine parts, forgings subjected to high mechanical stresses, and, possibly, pistons and crank cases, etc. can also be produced. The various stages of purification are: the expulsion of the H₂ gas dissolved in the aluminium by means of chlorine gas, and, subsequently, by means of N₂, then establishing a close contact between the contaminating metal bath and a layer of salt (e.g. of cryolite + NaCl + KCl) with the addition of halogenides of heavy metals (e.g. MnCl₂ and PbCl₂) by which the mechanical properties of the material and the formation of its crystalline structure are favourably influenced.

DOMONY, A.

85. Artificial thickening of aluminium oxide film by chemical processes. CH
A new method of producing protective coating for light metals - Az aluminium
szemleitő oxidaciojanak kemial modszerekkel torteno mesterséges erősítése;
kémnyílásnak fejtekalapjanak ujjfajta kikészítés - by A. Domony (Aluminium -
Vol. III, No. 3,4, pp. 62-65, 73-77, March, April 1951, 15 figs., 3 tabs.)

Experiments were made with the object of finding a process by which the
favourable properties of artificially thickened oxide films will ensure an
efficient corrosion protection and will satisfy the requirements for a suit-
able coating that can be used to advantage in the treatment of large work-
pieces without having to apply dip baths. Thorough investigations on the
formation as well as the chemical and physical properties of aluminium oxide
films led to the conclusion that new type artificial oxide films can be pre-
pared efficiently by spraying an aqueous solution of potassium bichromate,
calcined sodium carbonate and solid sodium hydroxide. This solution can
be sprayed quickly and easily on aluminium surfaces, and forms a corrosion
resistant spongeous oxide film with good varnish absorbing and adhesive prop-
erties. Oxidation sets in at about 30°C and becomes very intensive at 50
to 60°C. Various types of varnishes can be readily applied to aluminium
surfaces prepared in this manner resulting in satisfactory adhesion.

✓ Effect of boron on the
and ordinary aluminum
(Research Inst., Nonsite
Tech. Acad., Sci. Hang-
Tsch, Acad. Sci. Hung.)
The sharp lowering of the
can be cancelled to a fair
The elec. cond. of pure
added up to 1% does not fall more than 0.5 m./0 min.². The
curve for Ti plus B (where $B/Ti > 1$) was 1.5 m./0 min.²
lower and parallel to the characteristic curve of the metal
all alloyed only with boron.
The elec. cond. of ordinary Al
is lowered, but the effects of Fe and
Si are unchanged. Titanium boride is presumably formed.

electrical conductivity of refined
A. Donnelly and R. K. Vargh
(Research Inst., Nonsite
Tech. Acad. Sci. Hang-
Tsch, Acad. Sci. Hung.)
150-03 (1953) (in Russian).
elec. cond. of Al by Ti (and V)
is extent by alloying with boron.
(Fe + Si < 0.1%) with boron
more than 0.5 m./0 min.². The
curve for Ti plus B (where $B/Ti > 1$) was 1.5 m./0 min.²
lower and parallel to the characteristic curve of the metal
all alloyed only with boron.
The elec. cond. of ordinary Al
is lowered, but the effects of Fe and
Si are unchanged. Titanium boride is presumably formed.
R. J. March

M
38

B. T. M.
V. 3 No. 3
Mar. 1954
Metals- Extraction
And Refining

3662* Production and Properties of Alloying Materials
Necessary for the Manufacture of ~~Magnesium~~ ~~Aluminum~~ ~~Stainless Steel~~
Alloys. (Hungarian.) András Domony and Péter Vinczevi.
Aluminium (Budapest), v. 3, no. 11, Nov. 1953, p. 236-241.
Places emphasis on the importance of keeping out Fe. Practical
details of various processes are outlined. Micrograph, tables,
graphs. 10 ref.

B. T. R.
Vol. 3 No. 4
Apr. 1954
Pollution and Wastes.

5676* Utilization of Salt Residues and Scrapings Arising
During the Processing of Light Metals and Light Metal
Skins. (Hungarian) Andris Homory. Aluminum (Bulgaria).

v. 1, no. 1, Dec. 1953. [1954].

Reports investigations to determine quantity of valuable ma-
terials lost in salt residues and scrapings. Proposes method for
recovery. Describes composition of waste material. Tables.

Dombony, M.

89. Latest viewpoints and corrosion data in the utilization of aluminium alloys for shipbuilding - A. Dombony, M. Holló, *Járások a Gépek - V. 1954, No. 11, pp. 340-344, No. 12, pp. 366-378, 18 figs, 6 tabs*

Aluminium alloys and different grades of steel produced in Hungary for use in shipbuilding were subjected to comparative tests for their resistance to corrosion. The following tests were applied: (1) testing in liquid (static and flowing) medium, (2) stress corrosion test (static and dynamic loads), (3) salt spray chamber test. It was established that the tested aluminium alloys were less sensitive to the corrosion by the substances occurring in ship operation than were steel plates. There was no substantial difference between the corrosion resistance of the various copper-free aluminium alloys. It was found that the use of aluminium alloys with a copper content should be avoided in the building of vessels both for inland navigation and seafaring. Al-Mg type alloys showed the best resistance to corrosion.

However, the tendency towards stress corrosion increased rapidly with the increase of the Mg content. From among the Al-Mg-Si type alloys the corrosion resistance of annealed and solution treated materials was the best. Thus it was proved that aluminium alloys could be successfully used in shipbuilding, a fact verified in practice by the watercraft built in Hungary for inland navigation.

DOMONY, Andras, a musszaki tudomanyok kandidatusa; VARHELYI, Rezso

Effect of the casting skin of aluminum billets cast in water
on the properties of sheets made of the aluminum billets.
Koh lap 9 no. 11: 505-508 N '54.

1. Femipari Kutato Intezet.

Domony, A.

73. Influence of some alloying constituents on the structure of cast aluminum. (In English) A. Domony, K. R. Vassai. Acta Technica Academiae Scientiarum Hungaricae. Vol. 12, 1955, No. 1-2, pp. 157-164. 1 tab.

Experiments were conducted to show the effect of the various alloying elements and impurities of aluminum on the primary grain size of the cast metal. Grain size and mode of crystallization depend to the greatest extent — according to the experiments conducted under the same melting and casting conditions — on the kind of alloying constituents present in the molten metal, on the presence of other metallic constituents or impurities and on the amount. As anticipated, titanium showed an effect on grain size which was higher by several orders than that of the other investigated elements. In the opinion of the authors, the increased grain refining effect and its influence on crystallization cannot be explained univocally by any of the following theories: peritectic reaction, nuclei of titanium carbide particles and remnant crystal lattice fragments. A much clearer explanation can be given by assuming a favourable equilibrium of the forces and energies acting between the aluminum and titanium atoms in a melt of approx. 700°C.

2

100

PM work

DOMONY, A.

Some current problems with our finished aluminum products. p. 21. KOHASZATI LAPOK. (Magyar Bányaszati es Kohaszati Egyesulet) Budapest. Vol. 10, no. 1, Jan. 1955.

SOURCE: East European Accessions List (EEAL), Library of Congress
Vol. 5, no. 6, June 1956

SECRET

~~Effect of small quantities of impurities on the technological properties of aluminum~~
79 Effect of small quantities of impurities on the technological properties of aluminum
and impurities on the technological properties of aluminum
Kobayashi, Iwao
Nippon Steel Co., Ltd.
TOKYO, JAPAN
574-2 TABA

The present effect of small quantities of impurities on aluminum is mainly the same as that of Ti and B, on the most important technological properties of the metal has been investigated. The presence of Ti in the metal has a primary influence on the formation of the microstructure and on the tendency to hot cracking. In the joint presence of Ti and B microstructure formation depends upon the total quantity of alloying elements. In order of their combined effect on the grain refinement of the metal, the following sequence of constituents is effective: Ti > B > P. This is reflected by the fact that when Ti was added to the metal, it was easily dissolved from the solid solution by heat treatment, while B may be expelled by the addition of Ti. The maximum value of the hardening curve plotted for cold working depends upon the quantity of impurity contained in the metal, their characteristics depending on the dispersion of the alloying constituents in the metal. The joint presence of Ti and B in amounts of 0.1% to 0.2% of hundredths of per cent has no influence on the corrosion resistance of primary aluminum and its alloys. Below the chemical composition of 0.1% to 0.2% of Ti, however, the chemical composition of B is important in agreement with an approximate law of P.

LSJ

DOMONY, A.; VASSEL, R.; VARHELYI, R.

DOMONY, A.; VASSEL, R.; VARHELYI, R. Experiments for eliminating abnormalities in electric conductivity of aluminum wires. p. 497.

Vol. 15, No. 1/4, 1955.

KCZLEMENYEI.

TECHNOLGY

Budapest, Hungary

To: East European Agcession, Vol. 5, No. 5, May 1956

111 (Hungarian) Aluminum of Internationally Accepted
Standard Quality. Hungarian Production, Reichs für 1955.
Nemzetközi előirányzatnak megfelelő alumíniumszállék
1955 évi hazai gyártásnak tapasztalat. Antal Dániel,
Róbert Vassal, and János Déry. Koldozott Lapok V. II. no. 8.
Aug. 1955, p. 369-377.

Review of laboratory and industrial experience for the im-
provement of the properties of electrically conductive Al wire.
Effects of production methods on properties of wire.

ANDRÁS DOMONY

Relation between the characteristics of the hardening
curve of electrical aluminum wire and the composition of the
metal. András Domony. Fémirány Kft. Ltd. Kse
Limeszter 1956. 176-81. A comparison of the hardening
curves of Al wires of different compositions, with addns. of Fe
(0.003-0.43), Si (0.002-0.13), Ti (0.002-0.015), V (<0.005-0.030),
and B (0.01%) shows that the character of the curves is determined
by the distribution of the impurities rather than by the type
of alloy.

3
4820

ANDRAS DOMONY

Large-scale production of aluminum wire of good conductivity. András Domony and K. Robert Vusci. Huniparl Kulatáj Intézet Kozlonyayel 1950, 182-94.—The elec. properties of the finished wire depend upon the compn. of the basic metal and the manuf. conditions. The Si content of the Al must be $\leq 0.1\%$. During manuf. the formation of the Al-Si solid soln. must be avoided. The deleterious effect of the V and Ti content can be offset by addns. of B. Felicitas D. Goodman—

4

182c

SJc

DOMONY, A.

Effect on the technological properties of aluminum of small quantities of alloy elements.
p.165. (Kohaszati Lapok. Budapest. Vol. 11, no. 4, Apr. 1956.)

SO: Monthly List of East European Accessions (EEAL) LC., Vol. 6, no. 7, July 1957 incl.

Light Metal Usmg Conf. of the Hungarian Academy
of Sciences, Sept. 28-30, 1954, Budapest. A. Demeny (Acta
Technica Acad. Sci. Hungar. 1956, 14, 141-52-546).
1/2

metals; (2) reduction of energy consumption in reduction plants; (4) the finding of new areas for ferrous metallurgy; and (5) the economic use of Al. Lectures were devoted to: (i) problems related to raw materials for producing light alloys; (ii) the metallurgy of light-alloys; and (iii) the metallurgy and technology of light alloys. — It is considered that the best conditions for the electrolytic prodn. of Al are provided by the presence of Li in the electrolyte. — Petros emphasized his recent work on the development of new light alloys for the construction of supersonic aircraft, and dealt with the prodn. of very high purity Al, and segregation during chill-casting of Al. A. Gelej reported on his theoretical calculations and practical

Dominique

results relating to the following operations in the rolling, extruding, wire- and deep-drawing of Al and its alloys. J. Sekry gave new explanations of the structural changes occurring during the hot-rolling of Al; he considered that no recrystallization occurs during the process. A. Domonay thought that the effect of individual impurities on the technological properties of Al depend, *inter alia*, on the form in which these impurities are present and how they affect each other. -- Pujaruk reported on the metallurgical and technological characteristics of billets forged from an Al-Cu-Ni-Mg alloy containing small proportions of Si and Mn. F. Erdmann-Jenicek summarized his researches relating to the weldability of Al-Mg, Al-Mn, and Al-Mg-Si alloys. -- Oklava reported on the development of arc-welding under Ar protection, examining the results obtained with a process of automatic welding, using D.C. and Vertical electrodes, suitable for welding thick plates, with a welding speed of 1-2 in/sec. Transfer of metal from the electrode to the metal pool, in the case of pure Al occurs by a high-speed, almost continuous migration of metal drops; in the case of Al alloys, especially alloys of the Al-Mg type, the drops do not form a continuous stream, and this favours the formation of gas pockets. -- Jenicek called special attention to "Piloveru," alloy, an Fe alloy contg. ~30% Al. Particulars of these papers and others submitted to the Congress are contained in the report. The Congress is to be held annually in different countries. -- J. S. Q. T.

4/2

of

DOMONY, A.; VASSEL, R.

Effect of some alloys on the texture of cast aluminum. P. 17
KOZIEMENYEI Budapest, Vol. 18, no. 1/4, 1956

SOURCE: East European Accessions List (EEAL) Library of Congress
Vol. 5, no. 8, August 1956

DONNY, A.

A survey of the situation of the bauxite, alumina, and aluminum industries of the world and its effect on the Hungarian aluminum industry. (To be cont'd)p. 130.
(KOMASZATI LAPOK. Vol. 12, no. 3, Mar. 1957, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) U.S. Vol. 5, no. 12, Dec. 1957.
Uncl.

DOMONY, Andras, dr., a muszaki tudomanyok kandidatusa

Survey of the world's bauxite, alumina and aluminum industries
and their effect on the Hungarian aluminum industry. Koh lap
12 no. 4/5:176-180 Ap-My '57.

1. "Kohászati Iapek" szerkesztő bizottsági tagja.

18 6
16 Effect of small quantities of alloying elements and impurities on some physical properties of aluminum. A. J. Danner (Enrichment metallurgy, Bureau of Non-Metallic Materials, Sci. Transl. 16, 103-61 (1957) (in German). — The elec. cond. of Al depends mainly on the quantity of the dissolved elements in the matrix, of such as Si, Ti, and V. Small quantities of dissolved Si can be removed from the solid Al by suitable heat-treatment, while dissolved Ti or V can be removed by the addition of B. The attr. values of the plots tensile strength against reduction by cold-working depend on the quantity of the impurities present, and the character on the distribution of the alloying elements within the metal. The character of the strain-hardening curves of Al, contg. small amounts of segregated elements, is the same as that of the high-purity Al. The character of the strain-hardening curves of Al, contg. some 0.01-1% alloying elements in solid solution is somewhat different. The alteration of the character of the strain-hardening curves might be explained with the help of the theory of dislocations.

Frederick G. Knobell

See
151 Monthly Book of East European
Accessions (EEA), Vol. 6, No. 8,
Aug. 51 - uMCL

DOMONY, Andras, dr., a muszaki tudomanyok kandidatusa

The state and development of the industry of finished aluminum products from the point of view of their application in Hungary. Koh lap 12 no. 11/12 481-488 N-D '57.

Some newer experimental results in aluminum corrosion under the operational conditions corresponding to those of nuclear reactors. Ibid.:542-550.

1. "Kohaszati Lapok" szerkeszto bizottsagi tagja.

HUNGARY / Chemical Technology. Chemical Products and H-4
Their Application. Corrosion. Corrosion
Control.

Abs Jour: Ref Zhur-Kimya, No 1, 1959, 1631.

Author : Domony, A.

Inst : Not given.

Title : Investigation of Corrosion Aluminum Under Con-
ditions of an Operating Atomic Reactor.

Orig Pub: Kohash. lapok, 1957, 12, No 11-12, 542-550.

Abstract: The corrosion resistance of aluminum with addi-
tions of Fe, Ti, Si and B in water was investigated
at a high pressure and temperature. It was estab-
lished that the alloys of Al, containing inter-
metal compounds have the best corrosion resistance.
By the effect of the latter (depolarizing proper-
ties) can be explained the very high corrosion re-
sistance of super-pure aluminum in a weakly aggres-
sive media.

Card 1/1

10

HUNGARY/Chemical Technology. Chemical Products and Their Application. Corrosion, Corrosion Control H-4

Abs Jour : Ref Zhur - Khim., No 24, 1958, No 81963

Author : Domony A., Lichtenberger E.

Inst :

Title : New Approach to the Corrosion Problems of Aluminum in the Weakly Aggressive Media and in Food Products

Orig Pub : Kohasz. lapok, 1957, 12, No 11-12, 550-554

Abstract : Corrosion resistance of Al-strips, anodized in H_2SO_4 solution and in a mixture of H_2SO_4 and CH_3COOH , was investigated. It was concluded that the best corrosion resistive properties have Al-strips that were chemically oxidized. This is explained by the structure of the protective layer. Thickness and structures of various oxide layers were investigated.

Card : 1/1

Distr: 4E2c/4E3c/4E3d

18 27
Corrosion of aluminum under conditions encountered in
nuclear reactors. András Dononyi. Kohászati Lapok 90,
642-5)(1957).—Pure Al and alloy contg. various amounts of
Fe, Si and (or) Ti were subjected to 1-0 cycles consisting of
8 hrs. exposure to steam at 180° and cooling for 16 hrs.
The exposed samples were examd. for tensile, microscopical,
x-ray, and chem. properties. At contg. small amts. of Si
and Ti will corrode in relation to the temp. of the aq. phase;
at 180° corrosion (I) begins after a few hrs. incubation, at
>260° within a few min.; >0.2% Fe will substantially in-
hibit I at 180° (>0.2% at 260°); >0.4% Si, if no Fe is pres-
ent, will prevent I; 0.2% Ti will be effective at 180° but not
at 260°. B will accelerate I unless Si is also present, in
the latter case it shows no appreciable effect. I proceeds
inwards along the crystal boundaries and is attributed to the
water (which is dissolved, at high temps. and pressures) in
that the OH ions will peptize the oxide layer at the surface
which, in the absence of air, is unable to be regenerated.
The depolarising effects of the various ingredient metals,
depending upon the potential differential, are of major ef-
fect in inhibiting or accelerating I. L. Q. Axal.

7
3

PM

Ja

PM

DEMENY, A.

HUNGARY/Chemical Technology - Chemical Products and Their
Application. Food Industry.

H.

Abs Jour : Ref Zhur - Khimiya, No 10, 1959, 36803

Author : Dorony, A.

Inst :

Title : New Opportunities of the Utilization of Aluminum in the
Production of Equipment for the Food Industry and for
the Packing of Food Products.

Orig Pub : Elelm. ipar, 1958, 12, No 8-9, 235-245.

Abstract : The properties of aluminum and its alloys, especially
from the point of view of corrosion in the process of
food production, were examined. By prolonged boiling
in distilled water, a protective film is formed on the
aluminum surface, which in ordinary conditions protects
the equipment from corrosion. Other methods of protec-
tive treatments of aluminum surfaces were described.
The expansion in the production of packing equipment

Card 1/2

Distr: 4E2c

164. The effect of different impurities on the corrosion resistance of super-purity aluminum in water of high temperature and high pressure. (In German) A. Domony: Acta Technica Academiae Scientiarum Hungaricarum, Vol. 21, 1968, No. 1-2, pp. 123-139, 8 figs., 2 tabs.

The experiments showed the corrosion resistance of super-purity aluminum alloyed with various amounts of Si, Fe, Ti and H against water of high pressure and temperature. It was established that only aluminum containing certain kinds of foreign phase constituents in definite amounts is resistant to water of high pressure and temperature. Evaluating the results of the experiments on the basis of theoretical considerations, correlations were successfully established which explain the thus far unknown unusual corrosion behaviour of super-purity aluminum. Accordingly, the corrosion behaviour of aluminum in mild agents is strongly influenced not only by the hitherto known factors (the formation of oxide films, the electrochemical behaviour of the different phases against the basic metal) but by the depolarizing effect of the foreign phases as well.

4-MJC/MM
1

JW
1/1

PE
sp

Distr: LE2c

²² Distribution of calcium impurities in aluminum and their effect on the electrical conductivity of the metal. A. Domonay (Research Inst. Ind. Non-Ferrous Metals, Budapest). *Acta Tech. Acad. Sci. Hung.* 21, 205-307 (1968) (in German).
— Melts of Al metal with CaF₂, CaC₂, or CaH₂ contg. cryolite or chiolite salts can absorb finely dispersed impurities of nonmetallic salts that tend to promote gas absorption. No Al-Ca alloys are formed under these conditions (950° to 1150°). Ca found in Al metal indicates the presence of salt inclusions. These are responsible for decreased elec. conductivities, as well as for difficulties encountered in the degassing of the metal, but they can be dissolved out of the metal with mixts. of chiolite (rather than higher-melting cryolite) and NaCl at 720° to 800°. Alloying of Al metal with small amts. of Ca does not affect the gas absorption.
Hans U. D. Wiesendanger

OK. JH

Distr: 4E2c

V Surface treatment of aluminum. Andras Domonosy, Endre Lichtenberger-Balja, and Pal Csokas. *Kolloid Z.* 1960, 22, 92-100 (1960); *Metallurgische Z.* 1960, 84-7(1960).— Sheets made from pure Al (contg. 0.00, 0.10, and 0.28% Ca, resp.), com.-grade Al, Al-Zn3-Mg4, Al-Zn3-Mg3, anticorrodal (Al contg. Fe 0.82, Si 0.74, Mg 0.62, and Mn 0.40%), masil (Fe 0.23, Si 1.21, Mg 1.05, and Mn 0.85%), nautal (Fe 0.23, Si 4.20, and Mg 0.25%), and dural (Fe 0.28, Si 4.06, Mg 0.70, and Mn 0.80%) were boiled 3 hrs. in the following baths: distd. water, tap water, distd. water with 2% H₂O₂, tap water with 2% H₂O₂, distd. water with 1% NH₄OH, tap water with 1% NH₄OH, distd. water with 2% NaNO₃, tap water with 2% NaNO₃, distd. water with 2% glycerol, tap water with 2% glycerol. The protective layers developed by these treatments were examd. for thickness, elec.-capacity properties, and resistance to corrosion. Results were given in detail. Improvements in the protective properties of these layers were effected by anodic oxidation by using a spray gun. It was found that the effectiveness of the treatment is influenced by the method used in the manuf. of the sheets.

L. G. Arval

4-RML/3

DOMOKY, A.
LICHTENBERGER, E.
CSOKAN, P.

Some recent practical results in surface finishing of aluminum. p. 92.

KOHASZATI IAPOK. (Magyar Banyaszati es Kohaszati Egynasulet) Budapest, Hungary
Vol. 14, no. 2/3, Feb./Mar. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959
unclia.

H/014/60/000/002/001/003
E190/E435

18.12.10

AUTHORS: Buray, Zoltán, Doctor, Candidate of Technical Sciences
and Domony, András, Doctor, Candidate of Technical Sciences

TITLE: The Corrosion of Aluminium Alloys and of Their Joints
as Used in Shipbuilding

PERIODICAL: Kohászati lapok, 1960, No.2, pp.56-60

TEXT: The corrosion-resistance of aluminium alloys, and especially that of Al-Mg alloys, is well known in unstressed conditions but few data are available on the importance of Mg-content and of methods of heat-treatment on the corrosion-resistance of 3 to 5% Mg alloys to more aggressive media under simultaneous application of external stresses. The present study aims at establishing the optimum composition and condition of alloys in laboratory and field tests, with special reference to corrosion in Danube and sea-water. Al-4%Cu-1.5%Mg, Al-1.5%Mg-0.8%Si, Al-1.2%Mg-0.7%Si-0.5%Zn ("MASZIL"), Al-3%Mg, Al-5%Mg, Al-2%Mg-1%Mn and Al-1%Mn sheets (in various conditions of heat treatment), Al-1.7%Cu-1%Ni-0.5%Mg wires and cast

Card 1/5

H/014/60/000/002/001/003

E190/E435

The Corrosion of Aluminium ...

Al-1%Mg-2.2%Si, Al-3%Mg and Al-9%Si test pieces were subjected to laboratory corrosion tests and the loss of weight, of tensile strength and of elongation were measured. Stirring tests in Danube-water gave the following order of merit (loss of strength and elongation increasing in the series):

1. Al-3%Mg, Al-5%Mg, Al-Mg-Mn, annealed Al-Mg-Si
2. Solution treated Al-Mg-Si
3. Solution treated and precipitated Al-Mg-Si
4. Al-Cu-Mg.

Synthetic sea-water gave the following order:

1. Al-3%Mg, Al-5%Mg
2. Solution treated Al-Mg-Si
3. Annealed Al-Mg-Si and MASZIL.

In salt-spray tests, alloys containing copper suffered 0.20 to 0.30 g/m² loss of weight in 30 days against only 0 to 0.03 g/m² of the other alloys (for comparison, steel lost 3.0 g/m² in the same period). Static tests in battery-acid (38.5% sulphuric acid) again showed the inferiority of alloys containing Cu whilst the other alloys gave more or less equal resistance. It is concluded that, in the absence of stresses, there is no significant difference in

Card 2/5

8/014/60/000/002/001/003

the chemical resistance of alloys containing 3% and 5% Mg. Tests in Danube-water with simultaneous application of external stresses, proved Al-Mg alloys to be far superior to any other alloys, including the heterogeneous Al-Mg-Si alloy that showed a good resistance in the unstressed condition. Tests in the more aggressive 3%NaCl + 1%HCl medium very clearly demonstrated the higher resistance of the Al-3%Mg alloy and the susceptibility of Al-5%Mg alloy in the heterogeneous condition. "Nautal" samples (4.25%Mg, 0.21%Fe, 0.27%Si, 0.22%Mn) were corrosion resistant even in the artificially aged condition (heated at 350°C for 3 hours followed by slow cooling and ageing at 150°C for 8 hours) thus, this alloy represents the maximum harmless Mg concentration. Further investigation concentrated on laboratory stirring-corrosion tests of "Nautal" and its butt-welded joints prepared by gas or argon-arc welding with tungsten (TIG) or metal (MIG) electrode. The progress of corrosion was followed by measuring loss of weight, thickness, strength, proof stress and elongation. No signs of corrosion were detected after 60 days of exposure to Danube-water on any of the specimens and the effect of synthetic sea-water (made with

Card 3/5

H/014/60/000/002/001/003
E190/E435

The Corrosion of Aluminium ...

27.0 g NaCl, 3.8 g MgCl₂, 1.7 g MgSO₄, 1.2 g CaSO₄, 0.9 g K₂SO₄, 0.1 g CaCO₃ and 0.1 g MgBr₂ for each litre of water} was restricted to local greyish spots. In a 3%NaCl + 1%HCl solution, corrosion pits formed first adjacent to the welded bead and only later in the rest of the specimen. Weight loss was slow in the first 30 days but accelerated afterwards. The transition zone, adjacent to the bead, suffered greatest loss in weight and thickness. This zone was widest in the gas- and narrowest in the TIG-welded specimens. Because of this local decrease in thickness, tensile tests gave a specially sensitive indication of corrosion. Battery acid (with 38.5% H₂SO₄) attacked the specimens from the moment of immersion. In agreement with observations made in the hydrochloric acid test, the zone affected by moderate heat (200 to 500°C) during welding exhibited approximately twice the corrosion-resistance of the parent metal, whilst rapid corrosion in the transition-zone proper led to the formation of deep grooves. In order to confirm the laboratory tests, Al-3%Mg, "Nautal" and Al-Mg-Si specimens were fixed (with aluminium and hot-dip galvanized steel rivets) to a PVC sheet at the inner side of the bulwark at the bow of a Danube-sea going ship and were inspected for corrosion after a

Card 4/5

H/014/60/000/002/001/003
E190/E435

The Corrosion of Aluminium ...

half-year cruise on the Black Sea and the Mediterranean Sea. No significant loss of strength was observed on any of the specimens. "Nautal" showed minimum surface attack; corrosion occurred only where rust had flown down from damaged steel rivets. All aluminium-riveted joints were intact except for a slight bloom where a gap was left in riveting. From the results of laboratory and field tests, it is concluded that "Nautal" represents the optimum composition for the building of welded and riveted load-bearing structures exposed to slightly corrosive atmospheres. The alloy is slightly easier to fabricate and to weld than Al-5%Mg, it resists corrosion by Danube- and sea-water, and joints welded under a protective atmosphere approach the parent metal in resistance to corrosion by hydrochloric and sulphuric acid. There are 16 figures, 4 tables and 3 Soviet-bloc references.

[Abstractor's note: The first part of this article is published in No.1, pp.6-11; this is an abstract of the complete article.]

Card 5/5

DOMONY, Andras, dr.

Technical and economical description of more important methods for
the surface treatment of light metals. Gepyartastehn 1 no.7:275-280
O '61.

1. Research Institute of the Metal Industry, Budapest.

JAGANNATHA RAJU, G.J.V. (Budapest XI., Fehervari ut 144); DOMONY, A.
(Budapest XI., Fehervari ut 144)

The chemical resistance of aluminum materials of different composition
in concrete, mortar and gypsum. Periodica polytechn eng 5 no.2:117-133
'61.

1. Fémipari Kutató Intézet.

37963

3/137/62/000/005/027/150
A006/A101

5.2100

AUTHORS: Domony, A., Laár, T.

TITLE: Joint effect of titanium and boron upon the properties of an oxide film formed on an aluminum surface, and upon aluminum crystallization

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 1⁴, abstract 5082 ("Kohász. lapok", 1961, v. 94, no. 11, 505-507, Hungarian; Russian, German, English summaries)

TEXT: Some admixtures contained in Al, affect considerably its properties. Ti impairs electric conductivity, but promotes grain refining. B has a low effect on electric conductivity but promotes also the production of a fine crystalline structure. B impairs the properties of a surface oxide film. In the case of the joint presence of Ti and B, Al properties are determined by the predominance of one of the aforementioned elements in free state. To improve Al structure, 0.01 - 0.032% Ti should be added.

[Abstracter's note: Complete translation]

B. Gulyanitskiy

Card 1/1

DOMONY, Andras, a muszaki tudomanyok doktora

Reduction of corrosion damages as reflected in Hungary's
technical progress. Magy tud 69 no.3:167-171 Mr '62.

1. Tudomanyos fomunkatars, Fomipari Kutato Intezet.

DOMONY, Andras, dr.

Society news. Koh lap 95 no.6:260 Je '62.

1. "Kohaszati Lapok" szerkeszto bizottsagi tagja.

HORVATH, Gyorgy; LATINAK, Istvan; DOMONY, Andras, dr.; OVARI, Antal

Society news. Koh lap 95 no.8:342 Ag '62.

1. "Kohaszati Lapok" szerkeszto bizottsagi tagja (for Domony and Ovari).

BURAY, Zoltan, dr., a műszaki tudományok kandidátusa; DOMONY, Andras, dr.,
a műszaki tudományok kandidátusa

Corrosional behavior of aluminum alloys and their joints used in
shipbuilding. (To be contd.). Koh lap 93 no.1:6-11 Ja '60.

1. "Kohaszati Lapok" szerkesztő bizottsági tagja (for Domony).

BURAY, Zoltan, dr., a műszaki tudományok kandidátusa; DOMONY, Andras, dr.,
a műszaki tudományok kandidátusa

Corrosional behavior of aluminum alloys and their joints used in
the shipbuilding. (Continuation). Koh lap 93 no.2:56-60 F '60.

1. "Kohászati Lapok" szerkesztő bizottsági tagja (for Domony).

SZELESS, Laszlo; DOMONY, Andras, dr.

The editorial policy of "Kohaszati Lapok." Koh lap 93 no.7:329-331
Jl '60.

1. "Kohaszati Lapok" szerkeszto bizottsagi tagja.

DOMONY, Andras, dr., a muszaki tudomanyok kandidatusa

Explaining the causes for some irregularities observed during aluminum processing. Koh lap '93 no.9:400-407 S '60.

1. "Kohaszati Lapok" szerkesztő bizottsági tagja.

ARKOS, Frigyes; DOMONY, Andras, dr.

Periodical reviews. Koh lap 93 no.11:526-527 N '60.

1. "Kohaszati Lapok" főszerkesztoje (for Arkos); 2. "Kohaszati Lapok" szerkeszto bizottsagi tagja (for Domony).

DOMONY, Andras, dr., a mussaki tudomanyok kandidatusa

Preparation of light-metal semifinished products especially suited qualitatively for chemical surface refinement. Kohlap 93 no.12: 570-575 D '60.

1. "Kohaszati Lapok" szerkeszto bisottsagi tagja.

DOMONY, Andras, dr.

Some specific cases of the behavior of light metals in
connection with corrosion. Gepgyartastechn 2 no.5:181-184
My '62.

1. Femipari Kutato Intezet.

DOMONY, Andras, dr.

Aluminum conference. Koh lap 96 no.4:Suppl: Ontode 14 no.4:3 of cover
Ap '63.

1. "Kohaszati Lapok" szerkeszto bizottsagi tagja.

LAAR, Tibor, tudomanyos munkatars; DOMONY, Andras, a muszaki tudomanyek doktora

Developing the casting method in the foundries of aluminum smelters. Koh lap 96 no.5:232-236 My '63.

1. Femipari Kutato Intezet (for Laar).
2. "Koheszati Lapok" szerkeszti bizottsagi tagja (for Domony).

PITTER, Pal; ARKOS, Frigyes; HORVATH, Antal; DOMONY, Andras, dr.; LEVANDI, Ferenc, dr.; SELMECI, Bela; FEKETE, Sandor; MARTOS, Ferenc, dr.; MACSAY, Jozsef, okleveles gepeszmernok; TARCZY-HORNOCH, Antal, dr., akademikus, egyetemi tanar; GAGYI PALFFY, Andras, dr.; KICSINDI, Janos, okleveles kohomernok; HEINRICH, Jozsef, okleveles banyamernok

The 1963 general meeting of the Hungarian Association for Mining and Metallurgy. Koh lap 96 no. 6:241-264 Je '63.

1. Chairman, Division of Iron Metallurgy, Hungarian Association for Mining and Metallurgy (for Pitter).
2. Editor-in-Chief, "Kohaszati Lapok" (for Arkos).
3. Secretary, Division of Metallurgy, Hungarian Association for Mining and Metallurgy (for Horvath). 4. Editorial board member, "Kohaszati Lapok" (for Domony). 5. President, Hungarian Association for Mining and Metallurgy (for Levardi).
6. Secretary General, Hungarian Association for Mining and Metallurgy (for Selmecli). 7. Head, Auditing Commission, Hungarian Association for Mining and Metallurgy (for Fekete).
8. Head, Medal Commission, Hungarian Association for Mining and Metallurgy (for Martos). 9. Ozd Metallurgical Works, Ozd (for Macsay). 10. Esztergom Machine Tool Factory, Esztergom (for Kicsindi).